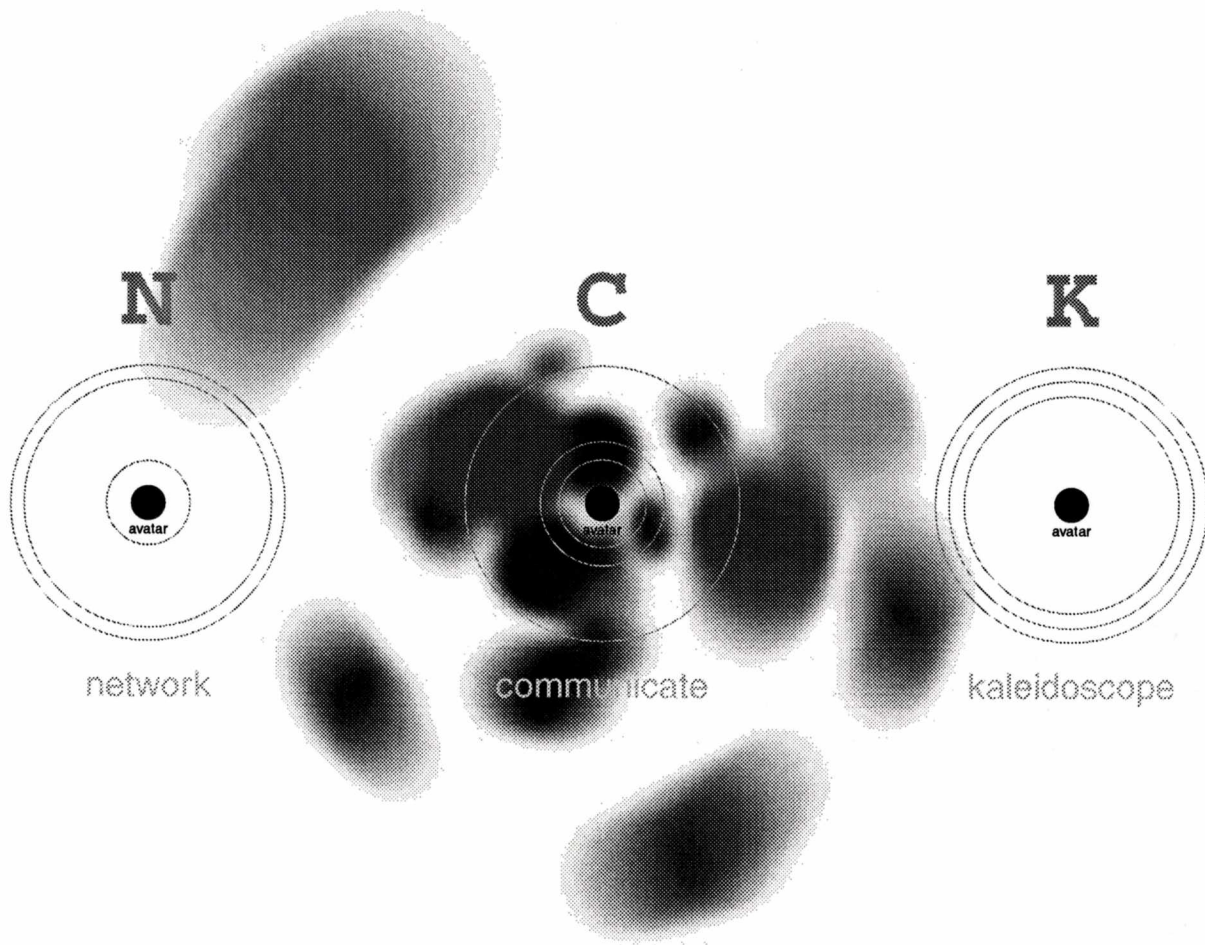


W58

<http://www.arizona.ne.jp/~kazu/nck/>



## DESCRIPTION

version 1.11

## ABSTRACT

**Network Communicate Kaleidoscope** is a virtual space accessible via the Internet.

People connect to a void world as a "Particle" enjoy chatting and interacting with others. After disconnecting, their remnant particle behaves individually with other particles' behavior reflecting activity by all who have ever connected in the virtual space. The project's theme is to explore and create beautiful images such as a kaleidoscope of "clustering fireflies", yet images are able to be made by anonymous personalities beyond the artist's. In this context the user/joiner contributes to and knows the substance of the art.

### To explore the substance of the beauty

I have a simple question, "what is beauty?" if fine art is the representation of beauty. And multiple points of view confuse this idea, I want to promote the beauty of nature.

A spectacular sunset or fascinating coast line seems to hypnotize people for a long time. Thus, people can feel beauty of nature. What do we feel in nature is beauty? If this was a work of fine art, it would be artist's personality. However, nature is not made by someone. Why do we feel nature's beauty if it wasn't considered for this purpose?

I have an answer for this. It's "relation and reflection". Nature objects are always no longer beautiful. There are much dirty objects in the environment. But, all of nature (even the dirty object) is very important in the beauty take a sunset scene like La Jolla. For example, The objects of a beautiful sunset are follows; sun, sea, sky, etc.. If the sun is beautiful, we will notice it is always so. But, in fact, we don't think so. At noon we wear a sun glasses to protect our eyes from the sunshine. So, the sun is not what makes beautiful sunset. The sea and everything else is the same. Then, what makes the sunset beautiful? Does it wonder? No way. It is not beautiful because a scene has beautiful objects, but every object relates and reflects upon each other fascinatingly. That COLOR of cloud was made with the Sunshine filtered to the Air reflect on the Cloud and surface of the Sea.

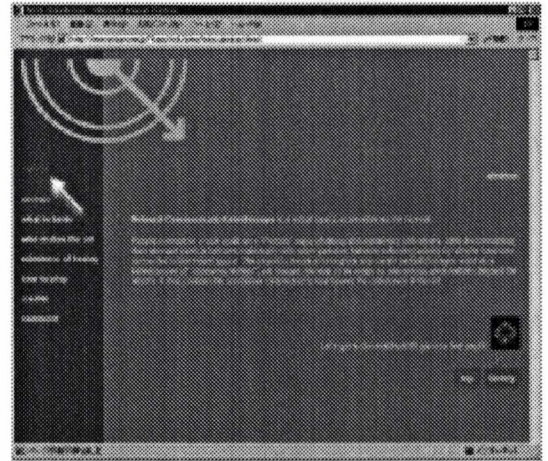
Thus, we must feel beauty that is complex relation and reflection of each simple object. This is the substance of the beauty of nature. We call this "harmony". Remarkably, this is simple refrains of objects. From this, I can find the basic structure of beauty.

## How to control

### 1. Login to the NCK world

#### 1.1 Invoke the applet program

click ENTER at the shoulder of "main" pages.



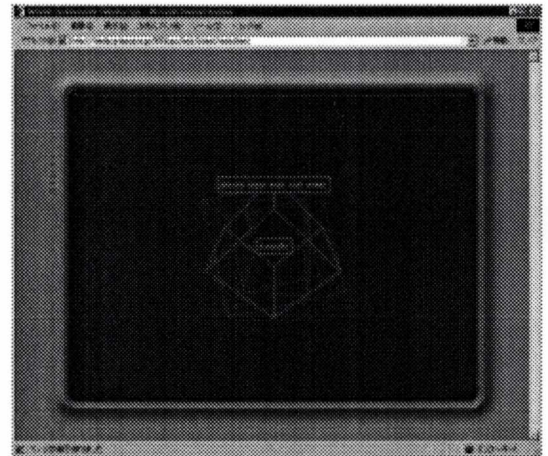
#### 1.2 Input your nick name

After downloading applet program, the login panel appears immediately. Then please type your favorite nick name within 10 characters by alphabet and numbers.

You can backward by a backspace or delete key if you mistyped.

After inputting your nick name, please press an enter key or click a mouse button in the rotating cube area.

(\*)you can not go next if you wouldn't your nick name.

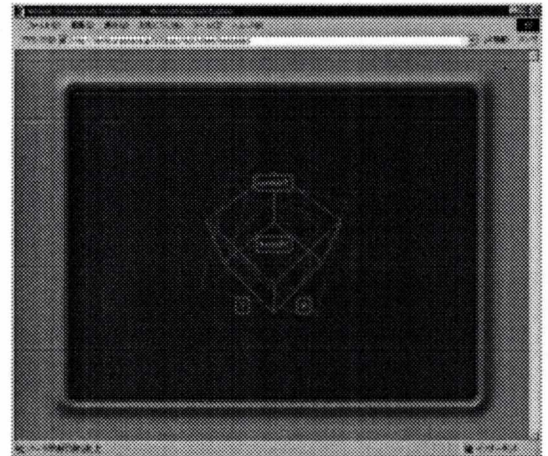


#### 1.3 Verify your nick name

Finally, the applet asks you if your nick name is correct.

If you want to change it, press N key or click N area on the screen to go back to 1.2 chapter.

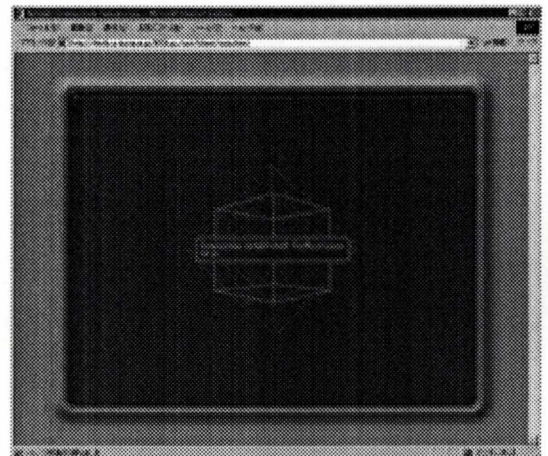
If you correct it, press Y key or click Y area on the screen to start connecting the server which manages the NCK world.



#### 1.4 Connection to the server

In the case of the success of server connection, it appears the message, "connection established:(server name)", and change the NCK world immediately. Otherwise, it appears the message, "Sorry!:(error message)", and asks if it tries to connect again.

(\*)"NoRouteToHostException" means data is blocked by a firewall of network with your computer connected. Please use from a computer connected in a network without firewall.

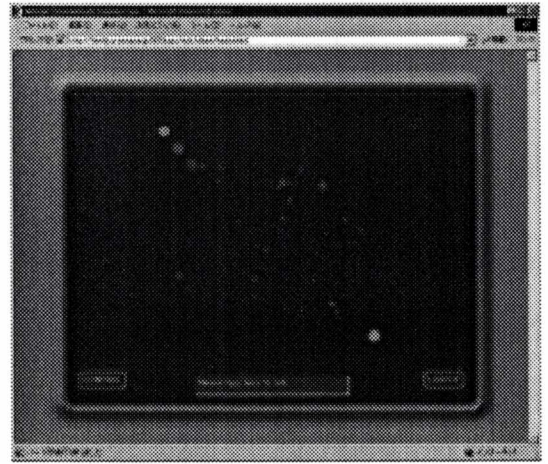


### 1.5 The end of login process

You can see the following screen if you connect the server normally.  
Have fun to chat the other who is on-line or to go around in the NCK world!

(\*)You may sometimes appear at the edge of the world. In this case and if you look at outside of the world, you can NOT get where you are not to see the others all.

To avoid this, please try to rotate(->2.2) at first to get your current position.



## 2. Moving

To move is controlled by click & drag of mouse pointer in the screen

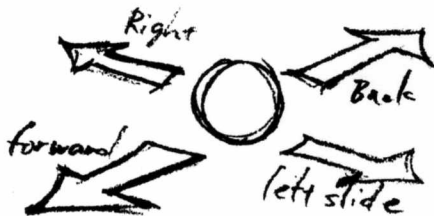
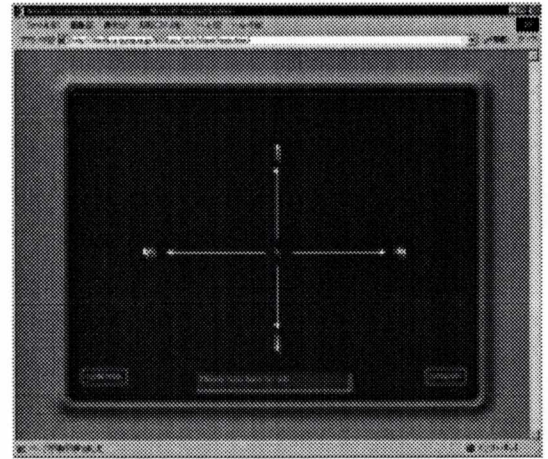
### 2.1 translate

Press left mouse button, then drag;  
up is forward.  
down is backward.  
left and right are slide.  
Macintosh: press mouse button only.

### 2.2 rotate

Press right mouse button, then drag the direction which you want to rotate.  
Macintosh: press command key and mouse button.

(\*)The NCK world is a sphere and get an avatar "teleport" to against side when it reaches the edge.

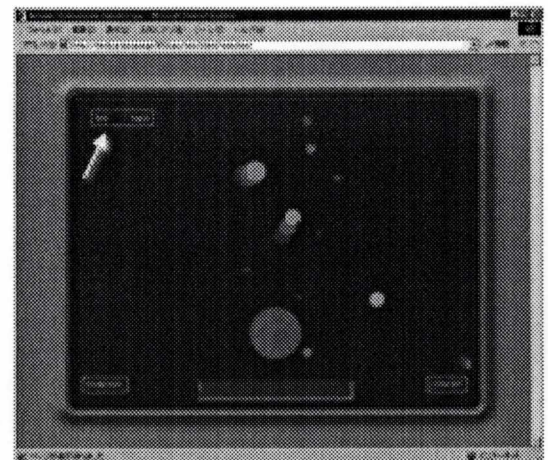


## 3. Chatting

This screen is the bird view mode(->4.2) to see easily.

### 3.1 Login notification

It appears the user's name at the left-upper corner while you are on-line if another login.

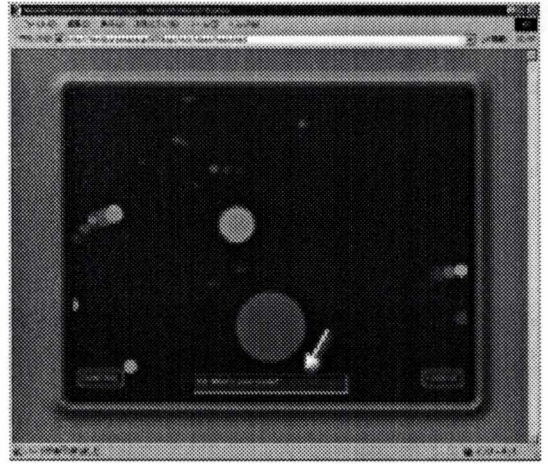


### 3.2 Talking input field

On-line user is a blinking particle with RED ring.

Please try to talk him/her with using the input field at the middle-bottom.

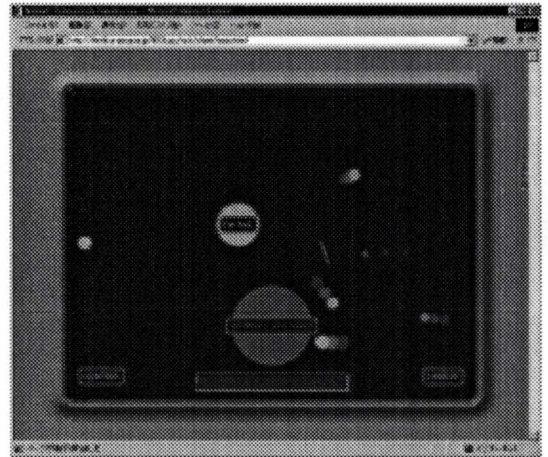
(\*)You can't get other's message not to be in close distance.



### 3.3 Chat scene example

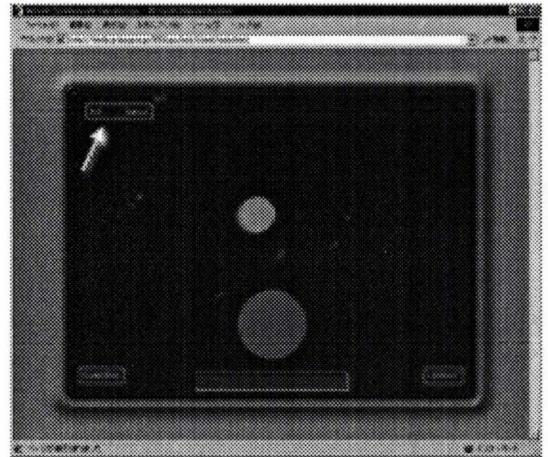
This is a sample screen of a chatting scene.

(\*)This system use "jis" code as stream encoding. You also can talk by Japanese if you have Japanese OS.



### 3.4 Logout notification

It appears the user's name at the left-upper corner while you are on-line if another logout. In addition, it starts moving automatically with user's behavior ever.



### 4. Control panel

You can change some preferences by "CONTROL" button at the left-bottom corner on the screen.

Select and press the button which you want to do from the menu list. RETURN is one step back.

CURRENT USERS LIST...

get name list of all on-line users.

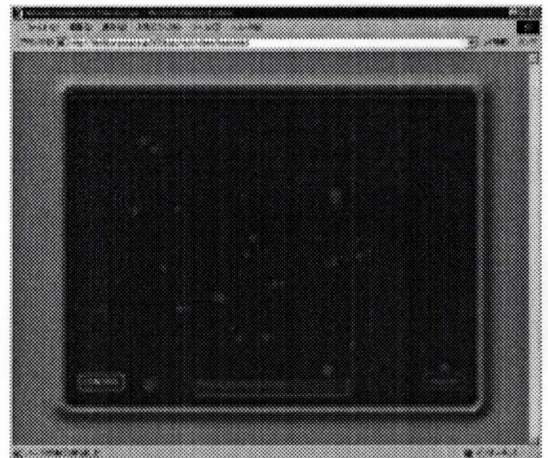
VIEW POINT...

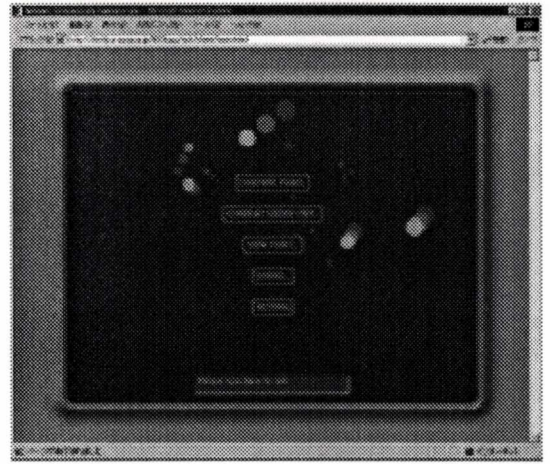
change your view point.

SOUND...

play or stop sound.

(\*)This is version1.11



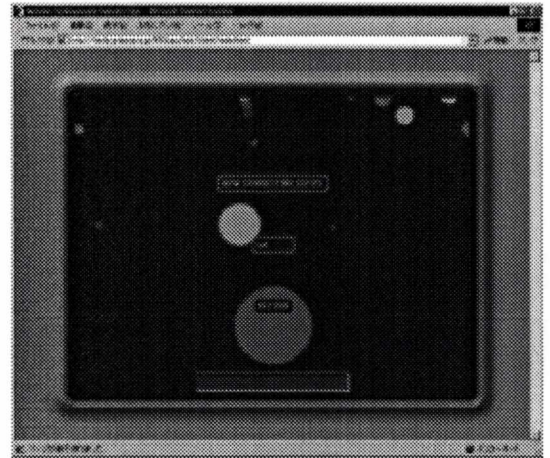


#### 4.1 CURRENT USERS LIST...

get name list of all on-line users.

You can check all on-line users when you login.

"no others" means there is no one on line.

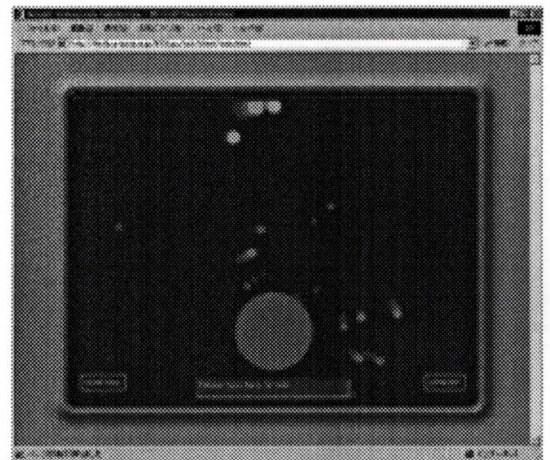
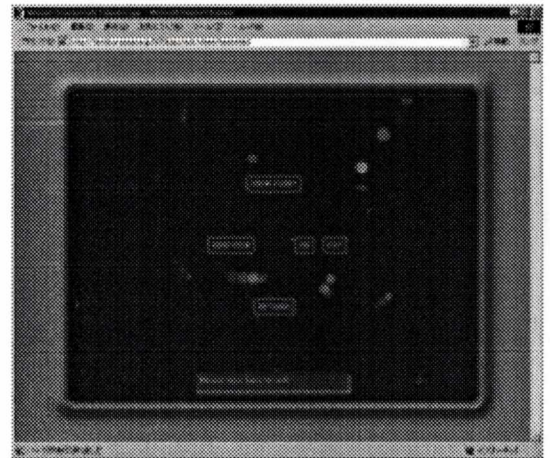


#### 4.2 VIEW POINT...

change your view point.

Current feature is just bird view mode.

It's easy to move if you want to see yourself.

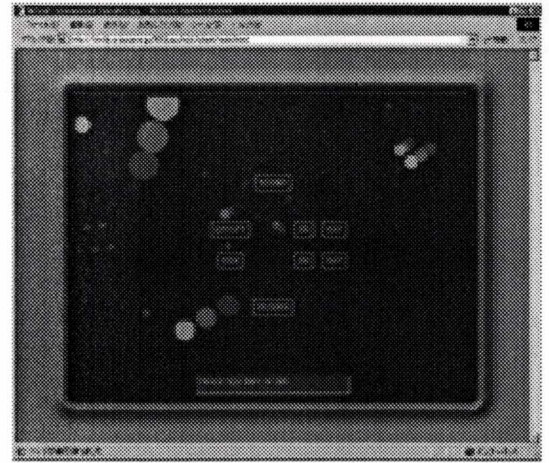


#### 4.3 SOUND...

play or stop sound.

EFFECT means ON/OFF of sound effects like it happens pushing a button.

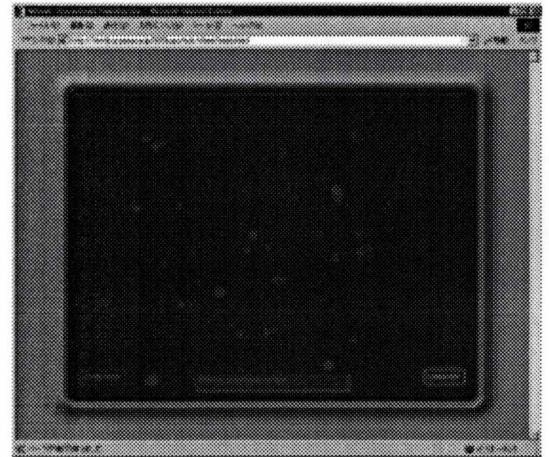
BGM means ON/OFF of back ground music.



#### 5. Logout from the NCK world

Please press "LOGOUT" button to logout from the NCK world.

(\*)This applet considers disconnecting when you destroy with pressing browser's back and forward button. However, please use this button as possible as you can to stable your computer.

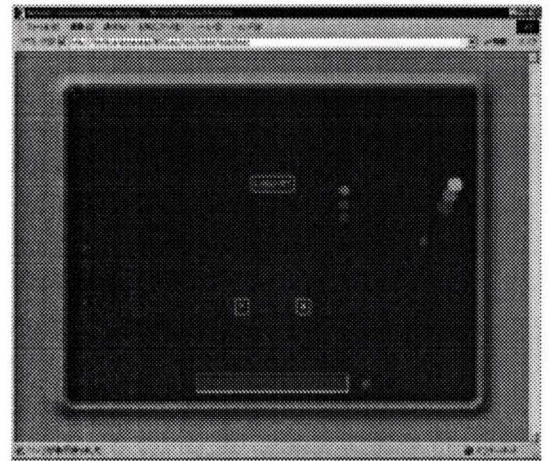


#### 5.1 Verify logout

The applet asks you if you want really to logout after pressing.

If you want to change it, press N key or click N area on the screen to go back to normal screen.

If you want to logout it, press Y key or click Y area on the screen to start disconnecting the server which manages the NCK world.

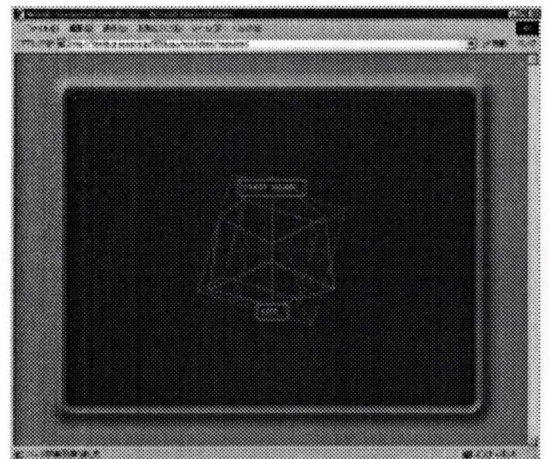


#### 5.2 After logout

After logout, it appears the credits panel. Then final request.

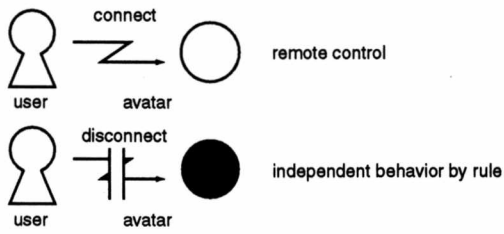
START AGAIN... means going back to 1.2 chapter.

EXIT means the applet is over. (jump to the survey form mail page)

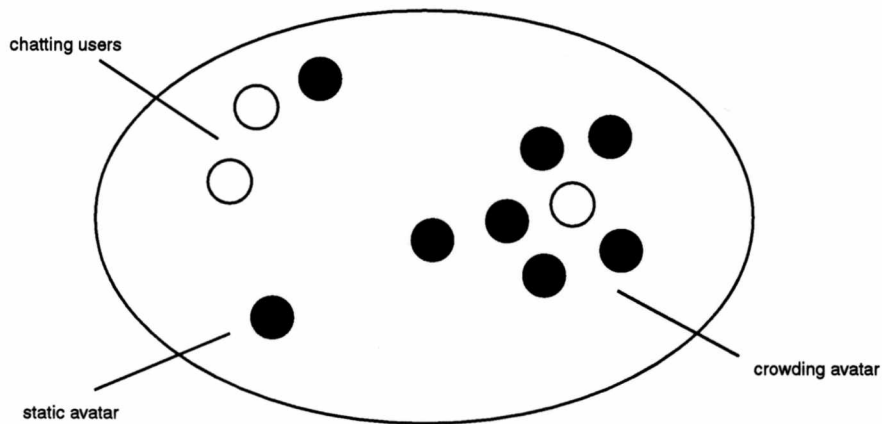


# TECHNICAL NOTES

## SYSTEM CONCEPT

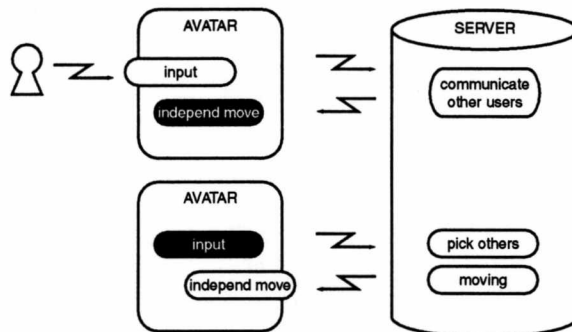


- \* Avatars are programmed by JAVA.
- \* Avatars behave independency if user disconnected.
- \* Avatars learn user's inclinations when user disconnected.
- \* Avatars decide their own moving and playing sound and changing colors by user's inclinations.
- \* Avatars communicate each other by themselves.



The result of Avatars;

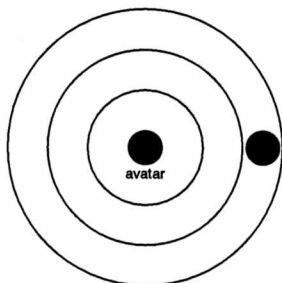
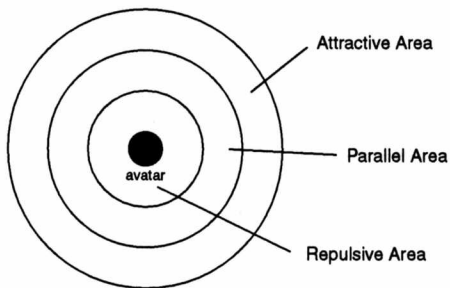
- \* Grow several cronies.
  - \* Several cronies play different minimal musics. (exhibition version only)
- Users will trance around avatars like firefly in virtual world like KALEIDOSCOPE.



SYSTEM CONCEPT MODEL

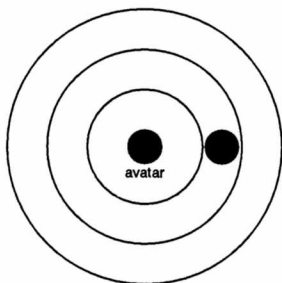
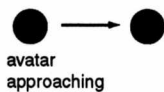
**DESCRIPTION of Avatars**

Avatars behave themselves based on "boid" rules below;



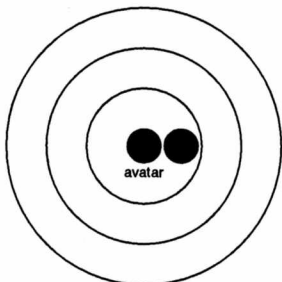
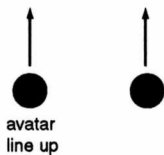
when pick an other avatar up in the attractive area

Approaching if avatar found another one in attraction area based on pick-up rule



when pick an other avatar up in the parallel area

Line up if avatar found another one in parallel area based on pick-up rule



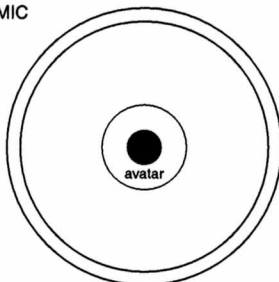
when pick an other avatar up in the repulsive area

Avoiding if avatar found another one in repulsive area based on pick-up rule

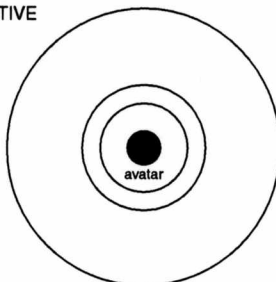


These volume of areas and parameters is decided automatically by connected user's inclinations. I can not expect personality of avatars from volume parameters. However, These will be classified it into 3 types.

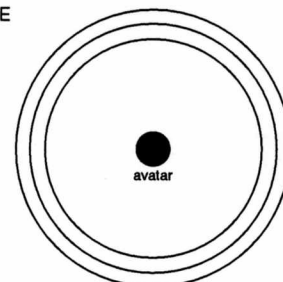
EX1;FRIENDLY MIMIC



EX2;FRIENDLY ACTIVE

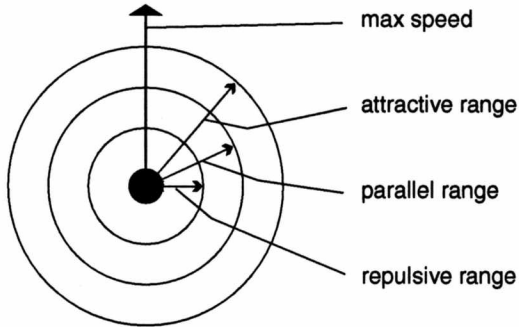


EX2;STATIC ALONE



DESCRIPTION of Avatars rule (version1.11)

There is 4 parameters to make a boid behave.



Server records user's personal data as follows;

- \* nick name
- \* network address
- \* login time
- \* logout time
- \* last position
- \* last direction
- \* last talking
- \* moving count
- \* talking count

Max speed is decided by follows;

$$\text{max\_speed} = \text{moving\_count} / (\text{logout\_time} - \text{login\_time})$$

then an avatar which user's moved more frequently will move faster.

Attractive range is decided by follows;

$$\text{attractive\_range} = \text{World\_range} \times (\text{talking\_count} / 50) \quad ; \text{ if over 50 then talking\_count} = 50$$

Repulsive range is decided by follows;

$$\text{repulsive\_range} = \text{attractive\_range} \times (1.0 - \text{talking\_count} / 50) \quad ; \text{ if over 50 then talking\_count} = 50$$

Parallel range is decided by follows;

$$\text{parallel\_range} = (\text{attractive\_range} - \text{repulsive\_range} / 2.0) + \text{repulsive\_range}$$

then an avatar which user's talked more frequently will move friendly.

All system is designed by

Kazushi Mukaiyama

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Thanks to

Harold Cohen, Sheldon Brown, Miller Puckette, Carol Hobson, Ted Apel, Maria Aranda, Hal Murphy,  
Justin Delemus , Masahiro Ikemoto and all "connected" users

---

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Atsushi Ota <http://www.ipc-tokai.or.jp/~atusi/>

Kenji Hiranabe <http://www.esm.co.jp/divisions/open-sys/java/vecmath/>

Boid engine:

Craig W. Reynolds <http://www.red.com/cwr/boids.html>

---

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